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"INTEGRATING CLEANER PRODUCTION INTO SUSTAINABILITY STRATEGIES"

Emergy and the Economy: Reflections on Sustainability

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Following Schumacher's (1973) concept of the primary economy (nature) feeding the secondary economy (agricultural and industrial production), we suggest that there now exists a tertiary economy (the financial system of trade, banking, insurance, and stocks). This tertiary economy is the tail that wags the dog of modern nation states. Driven by expectations for continued growth, investments have been increasingly directed toward the tertiary economy rather than toward the primary and secondary economies. As most economic theory for stable economies is based on growth, the planning and policy for economic health of nations is based on increases in all aspects of the economy. Yet growth cannot continue forever, and, in fact, the insistence on continued growth is at the root of the current economic crises.

We hypothesize that the increasing distance (spread) between the actual increase in wealth (measured by emergy throughput) and the illusion of wealth (measured by GDP) is a sign of serious future shocks or stochastic surprises similar to the boom and bust cycle that occurred up to and including 2008. The increasing concentration of money in the tertiary economy represents "wastepaper" wealth since there are few, if any, flows of emergy connecting the tertiary with the rest of the economy. Paper wealth in the tertiary economy represents a significant threat to the larger economy resulting in hyperinflation if it were spent in the economy. In addition, continued concentration of paper wealth in the tertiary economy threatens national security, indeed global security since it precipitates boom and bust trends and fosters resource imperialism.

Consistent with this biophysical perspective, we raise some important caveats of sustainability necessary to understand the present and adjust to the future, we do some sustainability myth busting, and finally provide guidelines for a prosperous way down (Odum and Odum, 2001).

Lit Cited:

Odum, H. T. and E. C. Odum. 2001. The Prosperous Way Down. University Press of Colorado, Boulder.

Schumacher, E. F. 1973. Small Is Beautiful: Economics As If People Mattered. Blond & Briggs, London. 288p.